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Sequence Listing was accepted.

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Reviewer: Anne Corrigan

Timestamp: [year=2009; month=9; day=28; hr=16; min=20; sec=13; ms=999;]

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Application No: 10577124 Version No: 1.0

Input Set:

Output Set:

Started: 2009-09-14 18:49:30.470
Finished: 2009-09-14 18:49:32.273
Elapsed: 0 hr(s) 0 min(s) 1 sec(s) 803 ms
Total Warnings: 4
Total Errors: 0
No. of SeqIDs Defined: 16
Actual SeqID Count: 16

Error code	Error Description
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W 402	Undefined organism found in <213> in SEQ ID (6)
W 402	Undefined organism found in <213> in SEQ ID (7)
W 402	Undefined organism found in <213> in SEQ ID (10)

SEQUENCE LISTING

<110> Robinson et al.

<120> PROTEINS INVOLVED IN SIGNAL TRANSDUCTION

<130> P035883WO

<140> 10577124

<141> 2009-09-14

<150> PCT/GB2004/004775

<151> 2004-11-10

<150> GB 0326192.2

<151> 2003-11-10

<160> 16

<170> SeqWin99, version 1.02

<210> 1

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Consensus sequence

<400> 1

Thr Cys Asn Asn Asn Lys Asp Ile Asn Gln Cys

1 5 10

<210> 2

<211> 260

<212> PRT

<213> Aeromonas salmonicida

<400> 2

Met Lys Gln Asp Gln Leu Leu Glu Tyr Leu Glu His Phe Thr Ser Val

1 5 10 15

Thr Asp Gly Asp Arg Leu Ala Glu Leu Ile Gly Arg Phe Thr Leu Gly

20 25 30

Met Gly Tyr Asp Tyr Tyr Arg Phe Ala Leu Ile Ile Pro Met Ser Met

35 40 45

Gln Arg Pro Lys Val Val Leu Phe Asn Gln Cys Pro Asp Ser Trp Val

50 55 60

Gln Ala Tyr Thr Ala Asn His Met Leu Ala Cys Asp Pro Ile Ile Gln

65 70 75 80

Leu Ala Arg Lys Gln Thr Leu Pro Ile Tyr Trp Asn Arg Leu Asp Glu

85 90 95

Arg Ala Arg Phe Leu Gln Glu Gly Ser Leu Asp Val Met Gly Leu Ala
 100 105 110
 Ala Glu Phe Gly Leu Arg Asn Gly Ile Ser Phe Pro Leu His Gly Ala
 115 120 125
 Ala Gly Glu Asn Gly Ile Leu Ser Phe Ile Thr Ala Glu Arg Ala Ser
 130 135 140
 Ser Asp Leu Leu Leu Glu Ser Ser Pro Ile Leu Ser Trp Met Ser Asn
 145 150 155 160
 Tyr Ile Phe Glu Ala Ala Ile Arg Ile Val Arg Val Ser Leu Arg Glu
 165 170 175
 Asp Asp Pro Gln Glu Ala Leu Thr Asp Arg Glu Thr Glu Cys Leu Phe
 180 185 190
 Trp Ala Ser Glu Gly Lys Thr Ser Gly Glu Ile Ala Cys Ile Leu Gly
 195 200 205
 Ile Thr Glu Arg Thr Val Asn Tyr His Leu Asn Gln Val Thr Arg Lys
 210 215 220
 Thr Gly Ser Met Asn Arg Tyr Gln Ala Ile Ala Lys Gly Val Ser Ser
 225 230 235 240
 Gly Ile Leu Leu Pro Asn Leu Glu Gln Val Val Val Thr Asn Phe Pro
 245 250 255
 Lys Leu Met Gln
 260

<210> 3
 <211> 241
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 3
 Met Arg Asn Asp Gly Gly Phe Leu Leu Trp Trp Asp Gly Leu Arg Ser
 1 5 10 15
 Glu Met Gln Pro Ile His Asp Ser Gln Gly Val Phe Ala Val Leu Glu
 20 25 30
 Lys Glu Val Arg Arg Leu Gly Phe Asp Tyr Tyr Ala Tyr Gly Val Arg
 35 40 45
 His Thr Ile Pro Phe Thr Arg Pro Lys Thr Glu Val His Gly Thr Tyr
 50 55 60
 Pro Lys Ala Trp Leu Glu Arg Tyr Gln Met Gln Asn Tyr Gly Ala Val
 65 70 75 80
 Asp Pro Ala Ile Leu Asn Gly Leu Arg Ser Ser Glu Met Val Val Trp
 85 90 95

Ser Asp Ser Leu Phe Asp Gln Ser Arg Met Leu Trp Asn Glu Ala Arg
 100 105 110
 Asp Trp Gly Leu Cys Val Gly Ala Thr Leu Pro Ile Arg Ala Pro Asn
 115 120 125
 Asn Leu Leu Ser Val Leu Ser Val Ala Arg Asp Gln Gln Asn Ile Ser
 130 135 140
 Ser Phe Glu Arg Glu Glu Ile Arg Leu Arg Leu Arg Cys Met Ile Glu
 145 150 155 160
 Leu Leu Thr Gln Lys Leu Thr Asp Leu Glu His Pro Met Leu Met Ser
 165 170 175
 Asn Pro Val Cys Leu Ser His Arg Glu Arg Glu Ile Leu Gln Trp Thr
 180 185 190
 Ala Asp Gly Lys Ser Ser Gly Glu Ile Ala Ile Ile Leu Ser Ile Ser
 195 200 205
 Glu Ser Thr Val Asn Phe His His Lys Asn Ile Gln Lys Lys Phe Asp
 210 215 220
 Ala Pro Asn Lys Thr Leu Ala Ala Ala Tyr Ala Ala Ala Leu Gly Leu
 225 230 235 240
 Ile

<210> 4
 <211> 241
 <212> PRT
 <213> Pseudomonas chlororaphis

<400> 4
 Met Glu Leu Gly Gln Gln Leu Gly Trp Asp Ala Tyr Phe Tyr Ser Ile
 1 5 10 15
 Phe Ala Arg Thr Met Asp Met Gln Glu Phe Thr Ala Val Ala Leu Arg
 20 25 30
 Ala Leu Arg Glu Leu Arg Phe Asp Phe Phe Arg Tyr Gly Met Cys Ser
 35 40 45
 Val Thr Pro Phe Met Arg Pro Arg Thr Tyr Met Tyr Gly Asn Tyr Pro
 50 55 60
 Glu Asp Trp Val Gln Arg Tyr Gln Ala Ala Asn Tyr Ala Val Ile Asp
 65 70 75 80
 Pro Thr Val Lys His Ser Lys Val Ser Ser Ser Pro Ile Leu Ala Ser
 85 90 95
 Asn Glu Leu Phe Arg Gly Cys Pro Asp Leu Trp Ser Glu Ala Asn Asp
 100 105 110

Ser Asn Leu Arg His Gly Leu Ala Gln Pro Ser Phe Asn Thr Gln Gly
 115 120 125
 Arg Val Gly Val Leu Ser Leu Ala Arg Lys Asp Asn Pro Ile Ser Leu
 130 135 140
 Gln Glu Phe Glu Ala Leu Lys Val Val Thr Lys Ala Phe Ala Ala Ala
 145 150 155 160
 Val His Glu Lys Ile Ser Glu Leu Glu Ser Asp Val Arg Val Phe Asn
 165 170 175
 Thr Asp Val Glu Phe Ser Gly Arg Glu Cys Asp Val Leu Arg Trp Thr
 180 185 190
 Ala Asp Gly Lys Thr Ser Glu Glu Ile Gly Val Ile Met Gly Val Cys
 195 200 205
 Thr Asp Thr Val Asn Tyr His His Arg Asn Ile Gln Arg Lys Ile Gly
 210 215 220
 Ala Ser Asn Arg Val Gln Ala Ser Arg Tyr Ala Val Ala Met Gly Tyr
 225 230 235 240
 Ile

<210> 5
 <211> 250
 <212> PRT
 <213> *Vibrio fischeri*

<400> 5
 Met Lys Asn Ile Asn Ala Asp Asp Thr Tyr Arg Ile Ile Asn Lys Ile
 1 5 10 15
 Lys Ala Cys Arg Ala Tyr Asp Ile Asn Gln Cys Leu Ser Asp Met Thr
 20 25 30
 Lys Met Val His Cys Glu Tyr Tyr Leu Thr Leu Ala Ile Ile Tyr Pro
 35 40 45
 His Ser Met Val Lys Ser Asp Ile Ser Ile Leu Asp Asn Tyr Pro Lys
 50 55 60
 Lys Trp Arg Gln Tyr Tyr Asp Asp Ala Asn Leu Ile Lys Tyr Asp Pro
 65 70 75 80
 Ile Val Asp Tyr Ser Asn Ser Asn His Ser Pro Ile Asn Trp Asn Ile
 85 90 95
 Phe Glu Asn Asn Ala Val Asn Lys Lys Ser Pro Asn Val Ile Lys Glu
 100 105 110
 Ala Lys Thr Ser Gly Leu Ile Thr Gly Phe Ser Phe Pro Ile His Thr
 115 120 125

Ala Asn Asn Gly Phe Gly Met Leu Ser Phe Ala His Ser Glu Lys Asp
130 135 140

Asn Tyr Ile Asp Ser Leu Phe Leu His Ala Cys Met Asn Ile Pro Leu
145 150 155 160

Ile Val Pro Ser Leu Val Asp Asn Tyr Arg Lys Ile Asn Ile Ala Asn
165 170 175

Asn Lys Ser Asn Asn Asp Leu Thr Lys Arg Glu Lys Glu Cys Leu Ala
180 185 190

Trp Ala Cys Glu Gly Lys Ser Ser Trp Asp Ile Ser Lys Ile Leu Gly
195 200 205

Cys Ser Glu Arg Thr Val Thr Phe His Leu Thr Asn Ala Gln Met Lys
210 215 220

Leu Asn Thr Thr Asn Arg Cys Gln Ser Ile Ser Lys Ala Ile Leu Thr
225 230 235 240

Gly Ala Ile Asp Cys Pro Tyr Phe Lys Asn
245 250

<210> 6
<211> 249
<212> PRT
<213> *Pantoea stewartii*

<400> 6
Met Phe Ser Phe Phe Leu Glu Asn Gln Thr Ile Thr Asp Thr Leu Gln
1 5 10 15

Thr Tyr Ile Gln Arg Lys Leu Ser Pro Leu Gly Ser Pro Asp Tyr Ala
20 25 30

Tyr Thr Val Val Ser Lys Lys Asn Pro Ser Asn Val Leu Ile Ile Ser
35 40 45

Ser Tyr Pro Asp Glu Trp Ile Arg Leu Tyr Arg Ala Asn Asn Phe Gln
50 55 60

Leu Thr Asp Pro Val Ile Leu Thr Ala Phe Lys Arg Thr Ser Pro Phe
65 70 75 80

Ala Trp Asp Glu Asn Ile Thr Leu Met Ser Asp Leu Arg Phe Thr Lys
85 90 95

Ile Phe Ser Leu Ser Lys Gln Tyr Asn Ile Val Asn Gly Phe Thr Tyr
100 105 110

Val Leu His Asp His Met Asn Asn Leu Ala Leu Leu Ser Val Ile Ile
115 120 125

Lys Gly Asn Asp Gln Thr Ala Leu Glu Gln Arg Leu Ala Ala Glu Gln
130 135 140

Gly Thr Met Gln Met Leu Leu Ile Asp Phe Asn Glu Gln Met Tyr Arg
145 150 155 160

Leu Ala Gly Thr Glu Gly Glu Arg Ala Pro Ala Leu Asn Gln Ser Ala
165 170 175

Asp Lys Thr Ile Phe Ser Ser Arg Glu Asn Glu Val Leu Tyr Trp Ala
180 185 190

Ser Met Gly Lys Thr Tyr Ala Glu Ile Ala Ala Ile Thr Gly Ile Ser
195 200 205

Val Ser Thr Val Lys Phe His Ile Lys Asn Val Val Val Lys Leu Gly
210 215 220

Val Ser Asn Ala Arg Gln Ala Ile Arg Leu Gly Val Glu Leu Asp Leu
225 230 235 240

Ile Arg Pro Ala Ala Ser Ala Ala Arg
245

<210> 7
<211> 245
<212> PRT
<213> Pectobacterium carotovorum

<400> 7
Met Ser Gln Leu Phe Tyr Asn Asn Glu Thr Ile Ser Arg Ile Ile Lys
1 5 10 15

Ser Gln Phe Asp Met Ala Leu Ser His Tyr Gly Asp Ile Lys Tyr Ala
20 25 30

Tyr Met Val Leu Asn Lys Lys Lys Pro Thr Glu Ile Leu Ile Ile Ser
35 40 45

Asn His His Asp Glu Trp Arg Glu Ile Tyr Gln Ala Asn Asn Tyr Gln
50 55 60

His Ile Asp Pro Val Val Ile Ala Ala Leu Asn Lys Ile Thr Pro Phe
65 70 75 80

Pro Trp Asp Glu Asp Leu Leu Val Ser Thr Gln Leu Lys Met Ser Lys
85 90 95

Ile Phe Asn Leu Ser Arg Glu His Asn Ile Thr Asn Gly Tyr Thr Phe
100 105 110

Val Leu His Asp His Ser Asn Asn Leu Val Met Leu Ser Ile Met Ile
115 120 125

Asp Glu Ser Asn Val Ser Asn Ile Asp Asp Val Ile Glu Ser Asn Lys
130 135 140

Asp Lys Leu Gln Met Thr Leu Met Thr Ile His Ala Glu Thr Ile Ser
145 150 155 160

Leu Tyr Arg Glu Met Ile Arg Asn Lys Glu Asp Glu Arg Ser Asn Asp
165 170 175

Lys Asp Ile Phe Ser Gln Arg Glu Asn Glu Ile Leu Tyr Trp Ala Ser
180 185 190

Met Gly Lys Thr Tyr Gln Glu Ile Ala Leu Ile Leu Asp Ile Lys Thr
195 200 205

Gly Thr Val Lys Phe His Ile Gly Asn Val Val Lys Lys Leu Gly Val
210 215 220

Leu Asn Ala Lys His Ala Ile Arg Leu Gly Ile Glu Leu Gln Leu Ile
225 230 235 240

Arg Pro Val Gln Ser
245

<210> 8
<211> 244
<212> PRT
<213> *Yersinia enterocolitica*

<400> 8
Met Ile Ile Asp Tyr Phe Asp Asn Glu Ser Ile Asn Glu Asp Ile Lys
1 5 10 15

Asn Tyr Ile Gln Arg Arg Ile Lys Thr Tyr Gly Asp Leu Cys Tyr Ser
20 25 30

Tyr Leu Val Met Asn Lys Lys Thr Pro Leu His Pro Thr Ile Ile Ser
35 40 45

Asn Tyr Pro Leu Asp Trp Val Lys Lys Tyr Lys Lys Asn Ser Tyr His
50 55 60

Leu Ile Asp Pro Val Ile Leu Thr Ala Lys Asp Lys Val Ala Pro Phe
65 70 75 80

Ala Trp Asp Asp Asn Ser Val Ile Asn Lys Lys Ser Thr Asp Ser Ala
85 90 95

Val Phe Lys Leu Ala Arg Glu Tyr Asn Ile Val Asn Gly Tyr Thr Phe
100 105 110

Val Leu His Asp Asn Ser Asn Asn Met Ala Thr Leu Asn Ile Ser Asn
115 120 125

Gly Ser Asp Asp Ser Ile Ser Phe Asp Glu Arg Ile Glu Ile Asn Lys
130 135 140

Glu Lys Ile Gln Met Leu Leu Ile Ile Thr His Glu Lys Met Leu Gly
145 150 155 160

Leu Tyr Gln Ser Asn Ser Asp Lys Asn Glu Asn Arg Asn Thr Gln Ile
165 170 175

Glu Arg Asp Ile Phe Ser Pro Arg Glu Asn Glu Ile Leu Tyr Trp Ala
 180 185 190
 Ser Val Gly Lys Thr Tyr Ala Glu Ile Ser Ile Ile Leu Gly Ile Lys
 195 200 205
 Arg Ser Thr Val Lys Phe His Ile Gly Asn Val Val Arg Lys Leu Gly
 210 215 220
 Val Leu Asn Ala Lys His Ala Ile Arg Leu Gly Ile Glu Leu Lys Leu
 225 230 235 240
 Ile Lys Pro Ile

<210> 9
 <211> 234
 <212> PRT
 <213> Agrobacterium tumefaciens

<400> 9
 Met Gln His Trp Leu Asp Lys Leu Thr Asp Leu Ala Ala Ile Glu Gly
 1 5 10 15
 Asp Glu Cys Ile Leu Lys Thr Gly Leu Ala Asp Ile Ala Asp His Phe
 20 25 30
 Gly Phe Thr Gly Tyr Ala Tyr Leu His Ile Gln His Arg His Ile Thr
 35 40 45
 Ala Val Thr Asn Tyr His Arg Gln Trp Gln Ser Thr Tyr Phe Asp Lys
 50 55 60
 Lys Phe Glu Ala Leu Asp Pro Val Val Lys Arg Ala Arg Ser Arg Lys
 65 70 75 80
 His Ile Phe Thr Trp Ser Gly Glu His Glu Arg Pro Thr Leu Ser Lys
 85 90 95
 Asp Glu Arg Ala Phe Tyr Asp His Ala Ser Asp Phe Gly Ile Arg Ser
 100 105 110
 Gly Ile Thr Ile Pro Ile Lys Thr Ala Asn Gly Phe Met Ser Met Phe
 115 120 125
 Thr Met Ala Ser Asp Lys Pro Val Ile Asp Leu Asp Arg Glu Ile Asp
 130 135 140
 Ala Val Ala Ala Ala Ala Thr Ile Gly Gln Ile His Ala Arg Ile Ser
 145 150 155 160
 Phe Leu Arg Thr Thr Pro Thr Ala Glu Asp Ala Ala Trp Leu Asp Pro
 165 170 175
 Lys Glu Ala Thr Tyr Leu Arg Trp Ile Ala Val Gly Lys Thr Met Glu
 180 185 190

Glu Ile Ala Asp Val Glu Gly Val Lys Tyr Asn Ser Val Arg Val Lys
195 200 205

Leu Arg Glu Ala Met Lys Arg Phe Asp Val Arg Ser Lys Ala His Leu
210 215 220

Thr Ala Leu Ala Ile Arg Arg Lys Leu Ile
225 230

<210> 10

<211> 236

<212> PRT

<213> Rhizobium spp.

<4